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CURRENT PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES¹

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The prevalence of certain important communicable diseases, as indicated by weekly telegraphic reports from State health departments to the United States Public Health Service, is summarized in this report. The underlying statistical data are published weekly in the Public Health Reports, under the section entitled "Prevalence of Disease."

Influenza.—The influenza outbreak of the winter had abated in all regions, although the number of cases (14,019) reported for the current period was about double the number reported for this period in each of the years 1933–35, inclusive. The East North Central, South Central, and Pacific regions still showed signs of an excess as compared with more nearly normal preceding years, but in other regions the incidence was about normal. The outbreak of 1935–36 that started in the West, spread into the South Central and South Atlantic regions, and then into the North Central regions, reached its peak during March of 1936 and was on a decline during April, but approximately 32,000 cases were reported for the 4-week period corresponding to that under report.

Smallpox.—The incidence of smallpox remained at a relatively high level during the 4 weeks ending April 24, with 1,443 cases reported as compared with 878, 739, and 656 for the corresponding period in 1936, 1935, and 1934, respectively. The high incidence of this disease that has prevailed since the beginning of 1935 has been mostly confined to the Mountain, Pacific, and West North Central regions, but reports for the current period show also a considerable increase in the East North Central region. States reporting a relatively high incidence were as follows: Missouri, 303 cases; Illinois, 205 cases; Iowa, 114 cases; Kansas, 113 cases; and Michigan, 44 cases. In the Mountain and Pacific regions, Montana, Oregon, and Colorado reported most of the excess number of cases which has maintained the high incidence.

¹ From Statistical Investigations, Division of Public Health Methods, National Institute of Health. These summaries include only the 8 important communicable diseases for which the Public Health Service receives weekly telegraphic reports from the State health officers. The numbers of States included for the various diseases are as follows: Typhoid fever, 48; poliomyelitis, 48; meningococcus meningitis, 48; smallpox, 48; measles, 46; diphtheria, 48; scarlet fever, 48; influenza, 44 States and New York City. The District of Columbia is counted as a State in these reports.

Meningococcus meningitis.—The reported incidence of meningococcus meningitis (690 cases) was about 60 percent of that for the corresponding period in 1936, but it was higher than in any of the 5 preceding years. The disease was less prevalent in the South Atlantic and East South Central regions than it was at this time last year, but the figures were considerably in excess of the normal seasonal expectancy. Virginia reported 50 cases for the current period, as compared with an average (1931–35) of 20 cases; Florida, 45 as compared with 5; Kentucky, 66 as compared with 35; and Alabama, 60 as compared with 8. In the East North Central region the number of cases was the lowest for this period in recent years. Other regions reported about the normal seasonal incidence.

Poliomyelitis.—The number of cases of poliomyelitis reported for the 4 weeks ended April 24 was 96, as compared with 47, 77, and 91 for the corresponding period in 1936, 1935, and 1934, respectively. The cases were distributed among the various geographic regions as follows: New England and Middle Atlantic, 9 cases; South Atlantic, 18; East North Central, 10; West North Central, 5; East and West South Central, 27; and Mountain and Pacific, 27. While the figures for the South Atlantic and South Central regions were not large, they represented the highest incidence in those regions in recent years. Other regions reported about the normal incidence for this season.

Scarlet fever.—For the current 4-week period 29,478 cases of scarlet fever were reported. The incidence was about 10 percent below that for the corresponding period in each of the two preceding years, but it was more than 25 percent in excess of the average incidence for the years 1930–34, inclusive. Of the various geographic regions, the New England and West South Central reported slight increases over the figures for this period in 1936; the South Atlantic and Mountain and Pacific regions reported appreciable decreases; while in the North Central and East South Central regions the incidence stood approximately at last year's level. In the Mountain and Pacific regions, where the disease has been unusually prevalent, 1,756 cases were reported for the current period, as compared with 3,850 in 1936 and 3,147 in 1935.

Diphtheria.—The decline in the incidence of diphtheria continued. The number of cases (1,724), however, represents a decrease from the figure for the corresponding period in 1936 of only about 5 percent, while in preceding years a decline from year to year of approximately 20 percent has been maintained. The East South Central and Pacific regions reported excesses over last year of 10 and 20 percent, respectively.

Typhoid fever.—The incidence of typhoid fever was somewhat below that of recent years, 443 cases being reported for the current period,

as compared with 520, 568, and 624 for the corresponding period in 1936, 1935, and 1934, respectively. The situation was favorable in all sections of the country except in the South Central, where the incidence was considerably higher than at this time last year.

Measles.—For the 4 weeks ending April 24 there were reported 45,102 cases of measles, a figure about 10 percent below the relatively low level of 1936. Excesses over last year were reported from the South Atlantic, East North Central, and South Central regions. The number of cases in the West North Central region was only about 30 percent of last year's figure for this period, while in the Mountain and Pacific region the current incidence was less than 20 percent of that for last year.

Mortality, all causes.—The average mortality rate from all causes in large cities for the 4 weeks ending April 24, based on data received from the Bureau of the Census, was 12.8 per 1,000 inhabitants (annual basis). The current rate was lower than that (13.3) for the corresponding period in 1936 but slightly above the average rate (12.2) for the years 1931 to 1935, inclusive.

RURAL SANITATION BY EMERGENCY RELIEF WORKERS¹

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For a period of 12 months the United States Public Health Service conducted an intensive study of the program of the local health department in the rural section of Forsyth County, N. C. During the course of this study, the Federal Government, through the State health department, inaugurated, within the nonurban areas of the county, an emergency relief project designed to further sanitation through the building, rebuilding, or repairing of privies. Since it was directed by the sanitation officer employed by the county health department, this project became a part of the local program and thereby subject to analysis by the United States Public Health Service.

If the study is to be of value in formulating health services, it should provide certain data that will serve as criteria for agencies which may later be engaged in the advancement of sanitation. Such data may be found in the answers to the three questions: Within a county supporting a well-organized health department, what was the sanitation status as expressed by the condition of the water supply and excreta disposal facilities? What were the worth-while disclosures concerning privy construction and deterioration? What were the structural improvements effected by emergency relief workers employed on an assignment so well defined that the results were easily measurable? It is the purpose of this paper to answer these questions, laying particular emphasis upon the structural improvements.

¹ From Division of Public Health Methods, National Institute of Health, in cooperation with Division of Domestic Quarantine.

What was the Sanitation Status?

A summary description of the compass of the survey and of the procedures of the administrators must be given before the first question can receive adequate consideration. It should be made clear that the Federal sanitation project studied by the Public Health Service did not mark the beginning or end of such services within the county; nor did it, chiefly because of lack of time, succeed in reaching every facility requiring improvement. During the entire project, inspections were made of the water and excreta disposal facilities on 3,019 premises situated in the rural area of Forsyth County. Of these premises 2,833 were residences, 130 were of a nonresidential type, comprising churches, schools, railway stations, business establishments, and similar types, and 56 were unspecified as to type or use. As 91 of the residences were unoccupied, there remained 2,742 occupied residences, which represented approximately the same number of families.² An estimate of the total number of families residing in Forsyth County, exclusive of the city of Winston-Salem, was 8,260 in 1934. Based on this total, about one-third of the rural homes were inspected. A comparison of the population characteristics, as described by the sanitarians in charge of the project, with similar information published in the United States census reports showed that the families included in the survey were representative of the aggregate rural families in Forsyth County.

In the initial survey, the sanitarians described certain social and economic characteristics of the occupants of the premises and then recorded data pertaining to the source and safety of the water supply. If the home or other premises was supplied by a central system, the safety of the water was recognized as a matter of course. Springs and wells were classified as safe, unsafe, or of questionable safety, depending upon the inspector's estimate of the extent to which the water was protected from surface pollution.

Of the 3,019 premises inspected, 240 received from the inspector no classification as to type or safety. It may be seen in table 1 that by far the greater portion of the other 2,779 premises were supplied by wells, the total being 2,557, or 92 percent. The remaining 222 systems, 8 percent, were so distributed that springs represented 2.6 percent, central connections 5.3 percent, and dual sources only 0.1 percent.

As shown in table 1, only 44 percent of the premises provided with some type of supply were classed by the sanitarians as safe, while 56 percent were unsafe or of questionable safety. The 240 premises that had no evident source of supply or that received no specification

² A family, for the purposes of this paper, is defined as any group of individuals, exclusive of those in institutions and labor camps, living under the same roof and eating from the same table.

as to type would undoubtedly increase the percentage of the latter group. Though the Federal project made no provision for the direct improvement of the means for securing water, it is reasonable to assume that the percentage of safe supplies was increased by the reconditioning of the excreta disposal facilities.

TABLE 1.—*Type and safety of water supply at the first inspection of the premises which maintained one or more systems*

Type	Total	Percent of each type		Type	Total	Percent of each type	
		Safe	Unsafe or of questionable safety			Safe	Unsafe or of questionable safety
Total.....	1 2,779	44	56	Central systems.....	147	100	0
Wells.....	2,557	42	58	Dual systems.....	2	50	50
Springs.....	73	15	85				

¹ This total does not include 240 premises receiving no specification as to type of water supply or state of sanitation.

The investigation of the sources of water supply was only incident to the detailed examination of excreta disposal facilities. The sanitarians noted the type and condition of the system used for the disposal of excreta, itemized the particular defects of the privy, and listed the materials required for the necessary corrections. At the final visit they enumerated separately on the report form each repair or construction and gave their approval to the finished structure if the alterations were satisfactory. In supplying information as to the type of the facility, they ascertained whether the premises was connected with a sewer or maintained a septic tank, a privy, or no means of disposal. The alteration of a sewer connection or a septic tank was considered beyond the jurisdiction of this particular project. If the privy had been constructed only a few months previously, it was described as new. If the construction was such as to prevent soil pollution and the access of flies to the contents, the privy was classed as sanitary. The term "approved", as employed in this paper, denotes that the facility was both sanitary and in good repair.

The number of excreta disposal facilities, 3,083, is greater than the number of premises receiving visits, since 64 of such facilities were situated on premises such as schools or filling stations which necessitated two or more toilets. For statistical purposes, the premises with no facilities have been considered in this paper as maintaining insanitary ones, unless other groupings have been specified. The records of the officials in control of the project made known the type and the sanitation of 3,032 excreta disposal facilities, the remaining 51 being of unspecified type and sanitation, as shown in table 2. Just as the rurality of the area was responsible for the fact that 92 percent

of the premises relied on wells, so it accounted for the fact that 84 percent of the facilities maintained on the various premises were privies. Septic tanks numbered 203, or 7 percent. The other 9 percent, 286 premises, were without any means of disposal.

TABLE 2.—*Type and sanitation of the excreta disposal facilities at the first inspection*

Type	Total	Percent of each type	
		Sanitary	Insanitary
Total.....	1 3,032	17	83
Privies.....	2,543	13	87
Septic tanks.....	203	99	1
No facilities.....	286	0	100

¹ This total does not include 51 facilities of unknown type and sanitation.

Table 2 shows that the supervisors of the work relief project regarded 87 percent of the privies as insanitary. Septic tanks were almost uniformly conceded to be sanitary, only 1 percent deviating from the standard. Certainly the 286 premises not affording any device for excreta disposal represented a positive state of insanitation. When the totals were computed, they indicated that 83 percent of all facilities, including, of course, the premises with no disposal systems, were characterized as insanitary.

What were the Disclosures Concerning Privy Deterioration?

For the purpose of this study, the major structural parts of the privy were grouped into three sections: First, the foundation, which included the pit, curb, sills, and the mound; second, the interior which comprised the floor, seat box, lid and hinges, and vent; and third, the house, which consisted of the walls, roof, and gutter.

In order to measure accurately the extent of deterioration, it is necessary to determine both the age of the privy and the plan of construction. The knowledge that privies had formerly been constructed throughout of wood, and that a very active sanitation campaign focused on the reconditioning of excreta disposal facilities had been conducted by the local health department in 1924 and 1925, establishes a limited basis for measuring deterioration. Of course it must be recognized that intermittent repair services had been rendered by the occupant or owner of the premises during the interim between the earlier sanitation project and the recent one. Nevertheless, the endeavors of the emergency relief workers afforded an opportunity to evaluate the durability of many of the repairs and constructions which had undergone the weathering of a decade.

Information as to the condition of the facilities is supplied by table 3, which designates the percentage that were satisfactory, in need of repairs, or in need of replacement. The percentages, 15, 73, and 12,

following the order of the designations in the preceding sentence, graphically portray the volume of work confronting the employees participating in the project.

TABLE 3.—*Condition of the excreta-disposal facilities according to the appraisal of the sanitarians*

Type	Condition of the excreta-disposal facilities			
	Total	Satisfactory	In need of repairs	In need of replacement
Total.....	2,753	418	2,002	333
Percent.....	100.0	15	73	12
Old privies.....	2,484	187	1,967	330
New privies.....	66	30	33	3
Septic tanks.....	203	201	2	0

¹ This total does not include 286 premises with no facilities and 44 facilities of unspecified type.

Analysis of particular defects, as in table 4, introduces a new basis of enumeration, dealing not with 3,083 excreta-disposal facilities but with the manifold defects as indicated by the number which the sanitarians reported and by the additional number which the carpenters revealed in the course of their work. The figures apply only to the 2,372 privies receiving an itemized record of defects, not to those which were condemned outright. The composite total of 8,986 indicates an average of 3.8 defects for each privy possessing impairments that were itemized.

TABLE 4.—*Occurrence of defects as indicated by the number reported by the sanitarians and by the additional number revealed by the carpenters*¹

Structural parts	Total	Number of defects reported by sanitarians	Number of additional defects revealed by carpenters
Total.....	8,986	6,279	2,707
Percent.....	100.0	70	30
Foundation.....	4,706	3,554	1,152
Pit.....	1,658	1,495	163
Sills.....	1,433	1,184	249
Curb.....	1,364	680	684
Mound.....	251	195	56
Interior.....	2,071	1,390	681
Seat.....	750	447	303
Floor.....	637	429	208
Vent.....	380	268	112
Lid or hinges.....	304	246	58
House.....	2,209	1,335	874
Walls.....	1,053	640	413
Gutter.....	1,016	617	399
Roof.....	140	78	62

¹ The figures apply only to the 2,372 privies receiving an itemized record of defects.

Ranking first in the number of defects enumerated by the sanitarians was the foundation, with a total of 3,554, which was 57 percent of the number of privy defects reported. The remaining defects were

almost equally distributed between various parts of the interior, with 1,390, or 22 percent, and parts of the house, with 1,335, or 21 percent. The total number of defects reported as occurring in the three sections of the structures was 6,279 at the primary inspection. Of more interest is the distribution of the defects among the separate parts of the privy. The pit was noted as unsatisfactory in 1,495 privies, or 56 percent of those under consideration. Second to the pit in the prevalence of defects were the sills, with a total of 1,184. The curb, next in number, appeared to be imperfect in 680 instances; the walls, in 640.

The number of additional defects discovered by the carpenters serves not only to reveal the aggregate number of imperfections but to gage the success of the sanitarians in their search for defects. Since 2,707 parts of the privy, although not described by the sanitarians as defective, received repairs, the conclusion is that the first inspection failed to reveal about one-third of the existing impairments.

What Were the Structural Improvements?

According to the plan of the Federal project, the owner or occupant of the premises was expected to procure all material which the sanitarian considered necessary, and the administrators were obligated to supply sufficient labor to complete the prescribed repairs or construction. Through the recommendations made by the sanitarians, need for the following alterations or improvements was manifested: Erection of new privies, 596; reconstruction of privies, 83; repairing of privies, 1,980; and destruction of privies, 6. It goes without saying that the 286 premises without facilities were included in the group receiving the recommendation for new structures. Even though the sanitarians declared 330 privies to be sanitary, it is known that 113 of these received suggestions as to repairing or rebuilding, thereby indicating that it was the purpose of the supervisors to make the renovation as thorough as possible.

The major service in the light of the recommendations was the installation or rebuilding of 743 privies, whereas only 679 new or rebuilt had been requested by the sanitarians. Five structures were destroyed, leaving unchanged only one of the six originally receiving recommendations for destruction. The records show that 1,321 privies received repairs that coincided with the recommendations of the sanitarians. The difference between this number and the number of recommendations based on repairs (1,980) is attributable to lack of time, to developments that altered earlier decisions, to independent action on the part of the owner or occupant, or to failure to accord with recommendations during the study year.

From the standpoint of the disclosure of defectiveness in the privies, not from the recommendations made, the success of the enterprise can also be determined. Of the 286 premises without

facilities, 70 percent installed privies, while 30 percent received no service. Nearly 6 percent of 418 facilities found to be without obvious defects had alterations. Almost three-fourths of the 333 privies needing replacement were built new or rebuilt. There were 1,665 privies listed as having from 1 to 4 defects. Of this number, 13 percent were replaced or rebuilt, 18 percent were unchanged, and 69 percent were repaired. Only 335 structures were seriously defective, that is, had from 5 to 9 defects; and of these, 24 percent were replaced or rebuilt, 18 percent received no improvement, and the other 58 percent were repaired.

The rapidity with which the foregoing improvements on each facility were completed is disclosed by the length of the interval between the first inspection by the sanitarians and the date on which approval of the finished structure was given. These intervals varied from 1 day to something more than 45 days. The average number of days required for the reconditioning of a facility was 15. In view of the fact that the occupant was usually allowed a 10-day period in which to assemble the necessary materials and that approval of the work was sometimes delayed, the average interval of only 2 weeks shows that the actual labor required a very brief period.

TABLE 5.—Changes effected in excreta disposal facilities by the emergency relief workers, as indicated by the character of the facilities at the first and last visits by the sanitarian

Character of the facilities	Facilities at first visit		Facilities at last visit	
	Number	Percent	Number	Percent
Total.....	3,063	100.0	3,063	100.0
Total approved.....	418	13.5	2,462	79.8
Privies.....	217	7.0	2,261	73.3
Septic tanks.....	201	6.5	201	6.5
Total unapproved.....	2,665	86.5	621	20.2
Sanitary privies.....	113	3.7	0	0
Insanitary privies.....	2,264	73.4	528	17.1
Insanitary septic tanks.....	2	.1	2	.1
No facilities.....	286	9.5	91	3.0

Table 5 presents a summary of the changes effected by the workers as indicated by the character of the facilities at the first visit by the sanitarian and at the last visit. The number of defective and insanitary privies plus the number of premises having no means of disposal dropped from 2,665, or 86.5 percent of the total inspections, to 621, or 20.2 percent. On the other hand, the number receiving unqualified approval rose from 418 facilities, or 13.5 percent, to 2,462, or approximately 80 percent. All of the privies in the other 20 percent cannot be classed as unsatisfactory, for many of them received services that were not reported, more than 200 records having

no carpenter's report attached or no evidence of approval indicated by the signature of a sanitarian. In case the owner, without assistance from the Emergency Relief Administration, carried out the recommendations made by the sanitarians, the relief agency took no credit for the service. A conservative estimate of the number of improvements resulting indirectly from the stimulus afforded by the Federal project places the total at 300 additional facilities, or 10 percent of the surveyed group. Insofar as the survey was concerned, with the addition of this 10 percent to the 80 percent definitely approved, 90 percent of the inspected facilities were in a sanitary condition.

Again it should be recalled that these structural improvements were accomplished within a period of 1 year and that they applied to approximately one-third of the rural premises. Subsequent to the close of the study, a modified project was introduced in which relief labor was used to augment the basic program of the health department; hence it is reasonable to suppose that a great portion of the remainder of the premises have been raised to the sanitation level of the group included in the original survey. Perhaps it should be pointed out that these efforts of the local health department and of the emergency relief workers have been facilitated by the existence of a State law which permits the enforcement of privy-sanitation regulations.

SUMMARY OF ACHIEVEMENTS

A final enumeration of the actual results of the project in Forsyth County involves all data accumulated in response to the three queries which constitute this study. First, an investigation of the status of the water and excreta sanitation of the county, as typified by the premises or facilities included in the survey, established the fact that 56 percent of the sources of water supply were not constructed in accordance with recognized principles of water protection, and that 83 percent of the excreta-disposal facilities were insanitary. Second, through the medium of the itemized repairs, there was presented an index of privy deterioration which showed that the pit, sills, curb, and walls were most frequently defective. And last, through the construction of 743 new or rebuilt privies, the reconditioning of 1,321, and the furthering of improvements in an additional 300 structures, the percentage of insanitary excreta-disposal facilities was reduced from 83 to 10.

DIBENZANTHRACENE TUMORS IN MICE

The Production of Subcutaneous, Pulmonary, and Liver Tumors by Serum Dispersions and Lard Solutions¹

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Since the observation by Burrows, Hieger, and Kennaway (8) that the subcutaneous injection of a lard solution of 1, 2, 5, 6-dibenzanthracene evokes spindle cell tumors in experimental animals, other investigators have found that this and other carcinogenic agents are capable of producing tumors at the site of injection when administered in a variety of media. The reader is referred to a recent review by Cook, Haslewood, Hewett, Hieger, Kennaway, and Mayneord (10) for a comprehensive discussion of the various media in which chemical compounds have proved to be carcinogenic.

In a previous paper (11) a method for preparing dispersions of 1, 2, 5, 6-dibenzanthracene in the sera of horses, dogs, and fowls was described. The present communication deals with the results attending the intravenous or subcutaneous injection of mice with the horse- or dog-serum dispersions as well as lard solutions of the carcinogenic hydrocarbon.

PREPARATION OF DISPERSIONS

Since the appearance of the earlier paper, it has been possible to obtain dispersions of higher concentrations by refining the method of preparation. A dispersion of 1, 2, 5, 6-dibenzanthracene in dog serum containing 0.3 mg of the hydrocarbon in each cubic centimeter of serum and an approximately homogeneous dispersion containing 1 mg of the hydrocarbon in each cubic centimeter of horse serum saturated with cholesterol were obtained, both of which were suitable for intravenous injection. The refinement of the method of preparation consisted mainly in determining the most favorable temperature for the formation of the dispersions.

The dispersion of the compound in dog serum was made as follows: A dog was given a meal of fatty meat, and 3 hours later 420 cc of serum were obtained by bleeding from the carotid artery, overnight clotting, and centrifugation. To the 420 cc of serum were added 120 mg of 1, 2, 5, 6-dibenzanthracene (melting point 267–268° C.) dissolved in approximately 400 cc of ether. The mixture was shaken for 4½ hours at room temperature and all the serum fat was dissolved in the ether. The ether was blown off at moderate speed and the temperature kept at approximately 38° C. Then the serum was filtered through a Büchner funnel through two layers of finely textured filter paper. The spectroscopic test (12) gave a content of 0.3 mg of the compound to each cubic centimeter of serum.

¹ From the Office of Cancer Investigations, U. S. Public Health Service, Boston, Mass.

An approximately homogeneous dispersion of 1, 2, 5, 6-dibenzanthracene in horse serum saturated with cholesterol was prepared as follows: To 150 cc of horse serum were added 100 cc of a saturated cholesterol-ether solution. This mixture was shaken for 1 hour at room temperature, the ether blown off at approximately 38° C., and the mixture was then filtered through paper. To 100 cc of the horse serum saturated with cholesterol, 100 mg of the hydrocarbon in 280 cc of ether were added. The ether was blown off at a temperature between 0° C. and 4° C., with moderate speed and vigorous agitation of the mixture by shaking. In this manner a dispersion was obtained which was nearly homogeneous and contained 1 mg of the hydrocarbon in each cubic centimeter.

EXPERIMENTAL ANIMALS

Pure strain mice of strains A, M, C₅₇ black and C₅₇ brown were obtained from the Roscoe B. Jackson Memorial Laboratory at Bar Harbor, Maine. Mice of strain C₃H were also employed. These were the descendants from a litter of C₃H mice procured in October 1930 through the kindness of Dr. L. C. Strong of the Bar Harbor Laboratories. Only brother to sister matings have been carried out since the arrival of these mice in this laboratory.

EXPERIMENTAL

Experiment 1.—During August 1934, mice were injected intravenously with 1 cc of a solution of 1, 2, 5, 6-dibenzanthracene in horse serum containing 1.5 mg of the hydrocarbon in each liter of serum; thus, each mouse received 0.0015 mg of the carcinogenic agent. The injected mice consisted of 22 strain A, 9 strain M, 13 strain C₅₇ brown, and 13 strain C₅₇ black animals. Nine months later 14 strain A, 9 strain M, 11 strain C₅₇ brown, and 8 strain C₅₇ black mice were living. These mice were killed and examined for macroscopic evidence of tumor growth and all were free from tumor.

Either the amount of carcinogenic agent was too small or the animals were killed too early to obtain tumors.

Experiment 2.—In this experiment mice of strains A, C₃H, and M were injected subcutaneously or intraperitoneally with a lard-dibenzanthracene solution or a horse-serum dispersion of the carcinogenic agent during September 1935. Each mouse received 1 mg of 1, 2, 5, 6-dibenzanthracene in either lard or horse serum. Details of the experiment are omitted because a large number of the experimental animals succumbed to an epidemic of *B. piliformis* (16). However, the lard solution, as well as the serum dispersion, evoked spindle-cell tumors in both subcutaneous and intraperitoneal tissues. Surviving mice were killed during June 1936, and the presence of 1, 2, 5, 6-dibenzanthracene was detected at the site of subcutaneous or intra-

peritoneal injection by means of its characteristic fluorescence in ultra-violet light.

In this experiment both the lard solution and horse-serum dispersion produced tumors at the site of injection in all 3 strains of mice. It is also of interest that some of the carcinogenic agent remained at the site of injection for at least 9 months.

Experiment 3.—A dog-serum dispersion containing 0.14 mg of 1, 2, 5, 6-dibenzanthracene in each cubic centimeter of serum was used in this experiment.

During October 1935, 7 strain A mice were each given intravenous injections of 0.5 cc of the serum daily for 4 successive days, making a total of 2 cc of serum containing 0.28 mg of 1, 2, 5, 6-dibenzanthracene. Eleven strain M mice each received 3 similar injections on successive days, making a total of 0.21 mg of 1, 2, 5, 6-dibenzanthracene for each animal.

One strain A animal died 3 months later and was found to be free from tumor. The remaining 6 strain A mice were killed 4 months after the first intravenous injection, and 5 revealed multiple pulmonary tumors when autopsied.

Four of the strain M mice were killed and autopsied 7 months after receiving their first injection. All were free from tumor. The remaining 7 strain M mice were killed 1 year after the time of injection; 6 did not have any macroscopic tumor growth and 1 had 2 primary lung tumors.

The results of the experiment show that pulmonary tumors were induced in strain A and in strain M mice by intravenous injections of a dog-serum dispersion of the hydrocarbon.

Experiment 4.—The primary purpose of this experiment was to ascertain whether intravenous injections of 1, 2, 5, 6-dibenzanthracene exerted any influence upon the time of appearance of subcutaneous tumors induced by a subsequent subcutaneous injection of the same compound. With this end in view, 24 strain C₃H male mice were given intravenous injections of a dog-serum dispersion containing 0.14 mg of 1, 2, 5, 6-dibenzanthracene in each cubic centimeter of serum. The injections were begun on November 4, 1935, and lasted for 5 successive days. On the first day each mouse was given 0.1 cc of the serum, on the second day 0.2 cc, on the third day 0.3 cc, on the fourth day 0.4 cc, and on the fifth day 0.5 cc. Thus, each animal received a total of 1.5 cc of the serum containing 0.21 mg of 1, 2, 5, 6-dibenzanthracene. On November 15, 1935, each mouse was injected subcutaneously in the right axilla with 0.2 cc of a lard solution of 1, 2, 5, 6-dibenzanthracene containing 0.8 mg of the hydrocarbon. Twelve other C₃H male mice were also injected subcutaneously with a similar amount of the lard-dibenzanthracene solution as controls.

The first subcutaneous tumor was noted on February 18, 1936, at which time all the mice were alive. All 12 of the controls developed only subcutaneous tumors prior to May 5, 1936. Up to April 29, 1936, 10 of the serum-injected mice had developed subcutaneous tumors only, but of the remaining 14 which came to autopsy after April 29, 1936, 13 had subcutaneous tumors; and of these, 4 also had multiple primary adenocarcinomas in their lungs. In addition to subcutaneous and lung tumors one mouse had developed a liver growth measuring 4 mm in diameter which histological studies revealed to be a hepatoma. The last experimental mouse died on June 8, 1936, and had not developed a tumor.

In this experiment pulmonary tumors and one liver tumor arose in strain C_3H mice receiving intravenous injections of a dog-serum dispersion and a subsequent subcutaneous injection of a lard solution of the tumor-inducing compound. Since only subcutaneous tumors appeared in the control mice, the results indicate that the dog-serum dispersion evoked the growths in the internal organs of the experimental mice.

Experiment 5.—This was a repetition of experiment 4. The results of the previous experiment had given some indication that the animals receiving the serum dispersion intravenously were more resistant than the controls to the development of subcutaneous tumors induced by 1, 2, 5, 6-dibenzanthracene. Hence, the procedure was repeated and larger amounts of the compound were administered intravenously by using a dog-serum dispersion containing 0.3 mg of 1, 2, 5, 6-dibenzanthracene in each cubic centimeter.

Twenty strain C_3H male mice were each given 6 intravenous injections on successive days—the first on May 4, 1936, consisting of 0.2 cc, the second and third consisting of 0.3 cc, the fourth and fifth consisting of 0.4 cc and the sixth consisting of 0.5 cc. Each animal was injected with 2.1 cc of the dog-serum dispersion containing 0.63 [mg of 1, 2, 5, 6-dibenzanthracene. On May 15, 1936, the intravenously injected mice and 20 normal C_3H males were each injected subcutaneously in the right axillary region with 0.2 cc of a lard-dibenzanthracene solution containing 0.8 mg of the carcinogenic agent.

The first subcutaneous tumor was found on August 20, 1936. Between this time and November 27, 1936, all the intravenously injected mice developed subcutaneous tumors in the right axilla and, in addition, five also developed primary pulmonary tumors. Sixteen of the 20 controls developed subcutaneous tumors during the same period and one of these had adenocarcinoma in its lungs. The four remaining control animals were kept until January 18, 1937, when they were killed. One had developed a small subcutaneous tumor in the right axilla and was free from tumor in other sites. The three

other mice were without tumor at the site of injection but had tumors in their lungs or liver. One had two lung nodules measuring 4 mm and 2 mm in diameter, respectively, and a liver mass measuring 9 mm diameter; one had three lung nodules, all of which were 3 mm in diameter, and a liver growth 6 mm in diameter; while the last had a single lung nodule 3 mm in diameter and a liver growth 4 mm in diameter. When the lung and liver growths were examined microscopically, it was found that the lung nodules were adenocarcinomas and the liver growths were hepatomas.

The production of lung tumors in the experimental C₃H mice confirmed the findings in experiment 4. The occurrence of lung and liver tumors in the control mice receiving a single subcutaneous injection of the lard solution shows that intravenous injections are not essential for the production of such tumors.

Experiment 6.—Twenty strain A female mice approximately 3 months old were given intravenous injections of a horse-serum dispersion of 1, 2, 5, 6-dibenzanthracene containing 0.1 mg of the compound in each cc of serum. The injections were begun on November 13, 1935, and consisted of 0.5 cc of the serum to each mouse for 10 successive days. Each animal received a total of 5 cc of serum containing 0.5 mg of 1, 2, 5, 6-dibenzanthracene. Two of the mice died during the series of injections and four were used for other purposes between November 25, 1935, and December 11, 1935. On May 13, 1936, six of the mice were killed, and all had multiple lung tumors. On October 5, 1936, the remaining eight mice were killed and autopsied. All had large multiple lung tumors (fig. 1) and one had developed a hepatoma.

The horse-serum dispersion produced pulmonary tumors in strain A mice when injected intravenously. This finding is similar to that of experiment 3 in which a dog-serum dispersion was employed for intravenous injection of strain A animals.

Experiment 7.—One of the reasons for performing this experiment was to test for the relative carcinogenicity of a lard solution and horse-serum dispersion of 1, 2, 5, 6-dibenzanthracene. The materials were injected on January 22, 1936. Sixty strain C₃H virgin female mice were used; 30 of these were injected subcutaneously in the right axilla with 0.25 cc of lard solution containing 1 mg of 1, 2, 5, 6-dibenzanthracene and the other 30 were injected in the same region with 1 cc of horse serum containing 1 mg of the compound in each cubic centimeter.

The first tumor was noted on April 14, 1936. The time of appearance of induced tumors in the two groups is summarized in table 1. The experiment was discontinued on September 24, 1936, when 7 of the mice (4 lard-injected and 3 serum-injected) were killed and autopsied; all were free from tumor. For the sake of comparison,

the table also includes another series of 24 C₃H female mice receiving a subcutaneous injection of 0.1 cc of glycerine containing 1.6 mg of 1,2,5,6-dibenzanthracene on February 25, 1936. Four of the mice were living and free from tumor on November 14, 1936, when the experiment was discontinued.

TABLE 1.—Experiment 7: Time of appearance of subcutaneous tumors induced in C₃H mice by 1, 2, 5, 6-dibenzanthracene when injected as a lard solution, as a horse-serum dispersion, or as crystals

Time in weeks.....		12	14	16	18	20	22	24	26	28	30	32	34	36	Total number of tumors	Number killed or died without tumor
Form of dibenzanthracene and amount injected	Number of mice injected	Number of tumors														
		Lard solution, 1 mg.....	30	4	1	2	6	3	3	1	2	2	1	---	1	---
Horse-serum dispersion, 1 mg.....	30	---	---	2	3	4	3	4	1	3	3	---	2	2	27	3
Crystals in glycerine, 1.6 mg.....	24	---	---	1	1	2	3	2	1	1	---	2	2	1	16	8

In table 1, it is seen that tumors appeared earlier in the mice injected with the lard solution and that both the lard solution and horse-serum dispersion evoked subcutaneous tumors earlier than did the crystalline material.

One lard-solution mouse was found to have several primary pulmonary adenocarcinomas when autopsied 33 weeks after receiving the subcutaneous injection. Seven of the serum-injected mice had primary lung tumors when autopsied; the first of these was found 24 weeks after the time of injection. Thus, the carcinogenic compound again produced pulmonary tumors in strain C₃H mice.

Experiment 8.—In this experiment strain C₃H male mice were given injections of a lard solution and a dog-serum dispersion of the carcinogenic compound. As in Experiment 7, one purpose in performing the experiment was to ascertain the relative efficacy of 1, 2, 5, 6-dibenzanthracene in the different media. The dog-serum dispersion contained 0.3 mg, and the lard solution contained 1 mg of the hydrocarbon in each cubic centimeter. On February 12, 1936, 20 mice received 1 cc each of the dog-serum dispersion subcutaneously in the right axilla and 20 others received 0.3 cc of the lard solution in the same region. The injections were repeated on February 27, 1936. In this manner each mouse was given 0.6 mg of the cancer-producing agent.

The first subcutaneous tumor was noted on May 19, 1936, and the experiment was discontinued on November 24, 1936, when 14 of the serum-injected mice and 3 of the lard-injected mice were killed and autopsied. From May 19 to November 24, 1936, 17 of the lard-



FIGURE 1.—Pulmonary tumors induced in a Strain A mouse of Experiment 6 by intravenous injections of a horse-serum dispersion of 1, 2, 5, 6-dibenzanthracene.

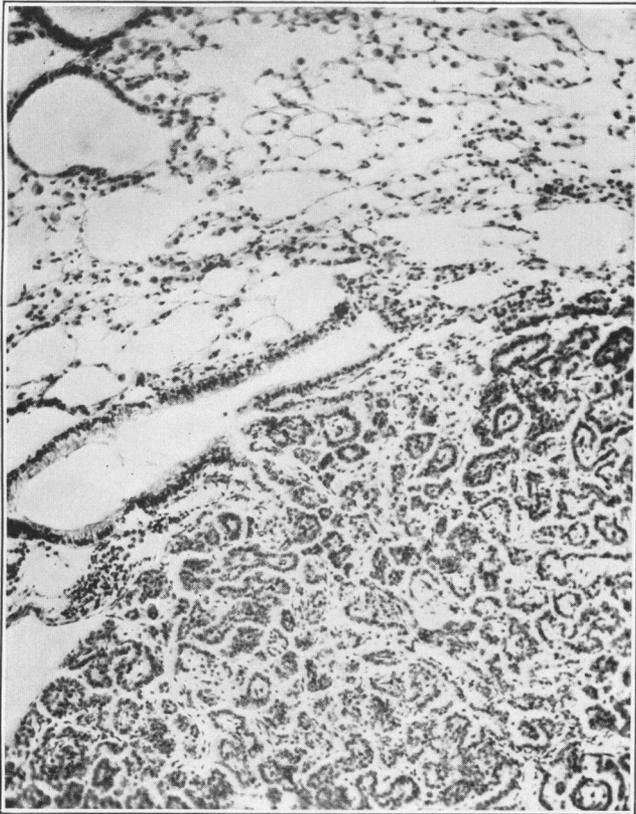


FIGURE 2.—Pulmonary adenocarcinoma induced in a C₃H mouse of Experiment 8 by subcutaneous injections of a dog-serum dispersion of 1, 2, 5, 6-dibenzanthracene.

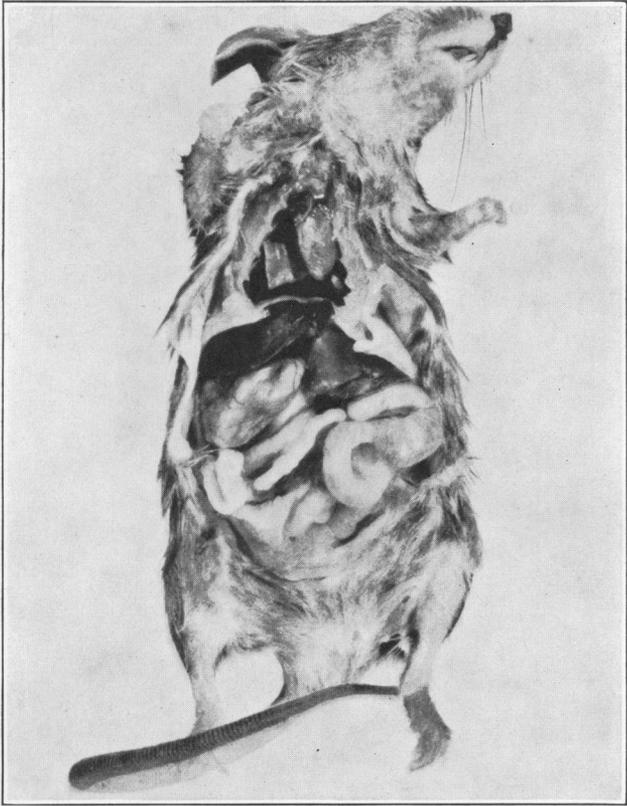


FIGURE 3.—Hepatoma induced in a $C_{3}H$ mouse of Experiment 8 by subcutaneous injections of a lard solution of 1, 2, 5, 6-dibenzanthracene.

injected mice and 6 of the serum-injected mice had developed tumors at the site of subcutaneous injections.

The interesting feature of the experiment was the presence of lung and liver tumors in the 17 mice (14 serum-injected and 3 lard-injected) killed on November 24, 1936. None had developed a tumor at the site of injection. Of the 14 mice receiving the dog-serum dispersion, 8 had multiple lung nodules and 2 had large single lung nodules. Histological studies of the nodules revealed that they were adenocarcinoma (fig. 2). One of the 3 surviving lard-injected mice also had a tumor in its lung.

In addition to pulmonary tumors, some of the 17 surviving mice had masses within or attached to their livers. Of the 14 serum-injected mice, 2 had multiple liver growths and 4 had large single growths; and of the 3 lard-injected mice, 2 had huge masses within their livers. The liver growths ranged in size from 6 mm in diameter to large pedunculated and lobulated growths measuring 22 by 15 by 15 mm (fig. 3). Stained preparations showed that all were hepatomas. Histological studies of the hepatomas are still in progress.

The time of appearance of subcutaneous tumors and the number of mice developing lung and liver growths are presented in table 2.

TABLE 2.—*Experiment 8: Subcutaneous, liver, and lung tumors found in C₃H mice following subcutaneous injection of 0.6 mg of 1, 2, 5, 6-dibenzanthracene as a lard solution or as a dog-serum dispersion*

Time in weeks.....		14	16	18	20	22	24	30	32	34	35	Total number of subcutaneous tumors	Killed 11/24/36 free from subcutaneous tumor	Killed 11/24/36 with hepatoma only	Killed 11/24/36 with lung tumors only	Killed 11/24/36 with both hepatoma and lung tumors
Form of dibenzanthracene injected	Number of mice injected	Number of subcutaneous tumors														
Lard solution.....	20	4	---	6	1	1	2	1	1	1	---	17	3	2	1	---
Dog-serum dispersion.....	20	---	1	---	---	1	---	---	3	---	1	6	14	2	6	4

It is seen that the lard solution was far more effective than the dog-serum dispersion in producing subcutaneous spindle-cell tumors.

DISCUSSION

The appearance of spindle-cell tumors at the site of subcutaneous or intraperitoneal injections of the horse and dog-serum dispersions of 1, 2, 5, 6-dibenzanthracene is in accord with the findings of other investigators who have used colloidal suspensions of the carcinogenic hydrocarbon. The presence of pulmonary tumors in strain A mice

following intravenous injections of 1,2,5,6-dibenzanthracene is similar to the results (2) obtained after subcutaneous injections of a lard solution of the compound.

The appearance of induced tumors in the lungs of strain A mice (3) or in the lungs of their offspring (4) implies that these growths can be evoked more frequently in those mice which possess a tendency to develop them spontaneously. The carcinogenic agent increases the number of lung tumors and accelerates their appearance in susceptible mice. This increase in frequency and acceleration of formation caused by a known cancer-inducing compound, suggests that the chemical acts in the same manner as, or supplements, an unknown agent responsible for the appearance of spontaneous lung tumors.

In this laboratory, mice of various inbred strains have been given subcutaneous injections of lard-dibenzanthracene solutions and, until the experiments recorded in this paper, only the lungs of strain A mice or of their offspring have proved to be especially susceptible to this carcinogenic agent. This organ susceptibility presents difficulties in experiments designed to elucidate the problem as to why lung tumors arise in mice injected with carcinogenic compounds; for, so long as the growths are induced only in mice known to possess a special organ susceptibility, it is impossible to ascertain whether the carcinogenic action of the agent is purely local in the lungs or whether it produces a constitutional change in the animals of which the lung tumors are a local manifestation. In order to present evidence that the tumors are induced by contact of lung tissues with a carcinogenic compound, it appears to be essential that they be produced in an inbred strain of mice which do not develop them spontaneously except, perhaps, in rare instances.

It is known that the C_3H mice used in these experiments exhibit a low incidence of spontaneous pulmonary growths. This strain was started in 1920 by Strong by crossing a male of the Little dilute brown strain and an albino female obtained from Dr. Bagg. The establishment of the C_3H strain and their susceptibility to spontaneous growths was reported by Strong (14) in 1935, and in this communication he states as follows: "The C_3H strain is to be considered a highly susceptible cancer family only so far as cancer of the female mammary gland is concerned. In regard to the tumors of the other organs, it is still to be considered a resistant strain since tumors other than those of the mammary gland have never been encountered in a period of 15 years." Bittner (5) reported on the C_3H strain in 1935 and states² that "To date, no tumors of any description have been observed in the males of this stock."

From the results of these experiments with C_3H mice it may be said that subcutaneous or intravenous injections of dibenzanthracene have

² A personal communication from Dr. Bittner reveals that, since the publication of his paper, 3 tumors, other than mammary gland carcinomas, have been found in his line of C_3H mice.

induced pulmonary tumors in members of a strain of mice which do not possess a tendency to develop many of them spontaneously. It is known that the susceptibility of the lungs of certain mice to the development of both spontaneous and induced tumors is inherited (4), and, as stated previously, the appearance of induced lung tumors in mice possessing this tendency may be interpreted as the influence exerted by the genetic constitution of the animal. It is also known (1) that both high and low spontaneous mammary cancer lines of mice are susceptible to the induction of subcutaneous tumors by carcinogenic compounds and it now appears as though an inherited organ susceptibility to development of spontaneous pulmonary neoplasms is not essential for the production of induced lung tumors. The difference in the susceptibility of various strains of mice to induced pulmonary tumors may be a matter of degree only.

The induction of liver tumors in strain C₃H mice may also be of some significance; for, in accord with the published reports of Strong and of Bittner, such growths have been rare in normal mice of this strain which have been raised in this laboratory. One hepatoma has been observed in a female mouse 20 months of age. It is worthy of note, however, that Strong and Smith (15) have reported the occurrence of spontaneous hepatomas in strain CBA mice which are related to the C₃H strain. They found such tumors in 14 mice (6 males and 8 females) ranging in age from 18 months to 30.5 months and remark upon the fact that the tumors appeared late in the life of the animals. None of the animals reported in the present communication was over 13 months of age when the induced hepatomas were observed in them. It is tempting to speculate that the C₃H mice may also inherit a tendency to develop both hepatomas and lung tumors late in life and, as in the case of pulmonary tumors in strain A mice, the carcinogenic hydrocarbon accelerates their appearance. Here, again, the hydrocarbon would be simulating the action of an unknown cancer-producing agent. Burrows (6) has shown that chronic irritation produced by the subcutaneous injection of certain substances failed to localize 1, 2, 5, 6-dibenzanthracene in the foci of irritation when the hydrocarbon was injected into the animal at a distance from the irritated area. His negative results and the findings recorded in this paper serve to suggest that the susceptibility of particular tissues may be of considerable importance in their reaction to carcinogenic agents.

The appearance of liver growths in mice following the subcutaneous injection of 1, 2, 5, 6-dibenzanthracene solutions is of interest, in view of the recent findings of Peacock (13) and of Chalmers and Peacock (9), who have presented evidence to show that when colloidal 3, 4-benzopyrene or colloidal 1, 2, 5, 6-dibenzanthracene are injected intravenously, both of these substances disappear rapidly from the circulating blood. In the case of 3, 4-benzopyrene they found evidence

that this compound, or a derivative, is dissolved in the bile, which suggests that it is eliminated by the liver. No direct evidence was found that 1,2,5,6-dibenzanthracene is eliminated in the same manner. Burrows and Cook (7) have shown that repeated injections of a water soluble compound of 1,2,5,6-dibenzanthracene into mice may be followed by leukemia and in one instance lymphosarcomatosis occurred. In the discussion of their results they state that "Though it might be unjustifiable at the present stage to assert that the chemical compound injected was the cause of both local tumors and the leucaemia, yet it seems possible that this was the case."

The induced lung and liver tumors in strain C₃H mice may be regarded as further evidence that 1,2,5,6-dibenzanthracene produces tumors in organs which are distant from the site of injection. Furthermore, in view of the findings of Peacock and Chalmers, it is suggested that the lung and liver tumors arose as the result of a direct action of dibenzanthracene, or a derivative, upon the tissues of these organs.

When equal quantities of the hydrocarbon were injected subcutaneously in lard solutions or in serum dispersions, the latter materials, particularly the dog serum, were less effective in producing tumors at the injection site but more effective in producing lung and liver growths. It seems possible that these results may be attributed to the type of media in which the compound was administered, for the bulk of the lard solutions remained as subcutaneous deposits while the dispersions disappeared soon after injection. However, lard solutions also produced lung and liver tumors in those animals which did not develop subcutaneous growths before the agent acted upon the tissues of the internal organs.

SUMMARY

Dog-serum and horse-serum dispersions of 1,2,5,6-dibenzanthracene were injected intravenously or subcutaneously and lard solutions of the same compound were injected subcutaneously into pure strain mice. The serum dispersions, when injected intravenously, induced lung and liver tumors, and when injected subcutaneously, produced local tumors at the site of injection as well as lung and liver tumors. Lard dispersion, when injected subcutaneously, evoked local tumors at the injection site and also produced lung and liver tumors.

The appearance of lung and liver tumors in mice injected subcutaneously is evidence that 1, 2, 5, 6-dibenzanthracene is capable of producing tumors in tissues which are distant from the site of injection.

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DEATHS DURING WEEK ENDED APRIL 24, 1937

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Apr. 24, 1937	Correspond- ing week, 1936
Data from 86 large cities of the United States:		
Total deaths.....	9,071	9,302
Average for 3 prior years.....	9,009	-----
Total deaths, first 16 weeks of year.....	160,429	155,623
Deaths under 1 year of age.....	552	612
Average for 3 prior years.....	602	-----
Deaths under 1 year of age, first 16 weeks of year.....	9,923	9,429
Data from industrial insurance companies:		
Policies in force.....	69,763,872	68,464,888
Number of death claims.....	14,315	14,880
Death claims per 1,000 policies in force, annual rate.....	10.7	11.4
Death claims per 1,000 policies, first 16 weeks of year, annual rate.....	11.4	11.0

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 1, 1937, and May 2, 1936

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936
New England States:								
Maine.....	1	1	3	3	12	210	0	0
New Hampshire.....					85	50	0	0
Vermont.....	1					595	0	0
Massachusetts.....	4	5			667	1,460	4	5
Rhode Island.....	2				183	36	0	1
Connecticut.....	2	5	6	1	404	167	1	2
Middle Atlantic States:								
New York.....	47	44	113	17	1,281	2,825	13	20
New Jersey.....	16	12	8	12	2,392	393	8	3
Pennsylvania.....	32	40			1,113	1,135	13	20
East North Central States:								
Ohio.....	27	31	27	129	1,066	527	8	29
Indiana.....	9	5	14	64	332	17	0	4
Illinois.....	27	32	41	68	282	33	7	18
Michigan.....	13	11	3	9	160	90	0	4
Wisconsin.....	1	5	26	63	21	116	2	2
West North Central States:								
Minnesota.....	3	2		2	23	550	0	4
Iowa.....	3	2	6	15	15	7	1	2
Missouri.....	7		61	247	40	20	4	3
North Dakota.....		1		3		2	0	0
South Dakota.....	1	4		3		6	0	0
Nebraska.....	5	3			35	32	0	1
Kansas.....	9	1	24	22	42	20	1	1
South Atlantic States:								
Delaware.....		1			44	24	0	0
Maryland ¹	6	6	4	10	509	342	4	14
District of Columbia.....	11	7	2	3	75	126	1	8
Virginia.....	5	17		235	634	132	9	8
West Virginia.....	14	11	50	59	123	66	5	9
North Carolina ²	10	9	31	30	321	48	13	4
South Carolina.....	7	4	264	223	120	63	1	7
Georgia ³	2	10	53				3	3
Florida.....	4	2		19	2	21	0	4
East South Central States:								
Kentucky.....	10	4	16	119	551	75	15	31
Tennessee.....	4	7	37	298	44	58	6	7
Alabama ⁴	9	11	93	223	12	20	13	3
Mississippi ⁵	6	5					0	1
West South Central States:								
Arkansas.....	7	11	63	146	5	1	1	0
Louisiana.....	15	8	63	46	2	52	0	7
Oklahoma ⁴	9	8	41	215	62	25	0	5
Texas ⁶	40	30	479	741	930	584	6	6

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 1, 1937, and May 2, 1936—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936
Mountain States:								
Montana ¹	2	3	10	18	4	17	1	0
Idaho.....			2	1	13	20	0	1
Wyoming.....		1			25	2	2	0
Colorado.....	5	2			19	41	2	0
New Mexico.....	3	3		3	74	38	0	0
Arizona.....		6	31	59	102	212	0	2
Utah ²					23	36	0	1
Pacific States:								
Washington.....		1		8	53	399	0	2
Oregon ³	2		29	48	11	210	1	0
California ⁴	12	29	198	148	183	2,217	4	4
Total.....	393	400	1,698	3,300	12,176	13,129	149	246
First 17 weeks of year.....	8,477	9,459	266,608	128,172	127,959	164,617	2,858	4,192

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936
New England States:								
Maine.....	0	0	30	18	0	0	0	0
New Hampshire.....	0	0	4	8	0	0	0	0
Vermont.....	0	0	4	5	0	0	0	0
Massachusetts.....	0	0	238	251	0	0	2	0
Rhode Island.....	0	0	53	18	0	0	1	0
Connecticut.....	1	0	154	50	0	0	1	2
Middle Atlantic States:								
New York.....	0	2	985	910	0	0	9	14
New Jersey.....	0	0	246	460	0	0	3	6
Pennsylvania.....	0	1	747	460	0	0	5	16
East North Central States:								
Ohio.....	1	1	442	674	0	0	8	21
Indiana.....	2	0	177	178	10	1	0	1
Illinois.....	1	0	725	634	25	7	4	1
Michigan.....	0	0	765	328	16	1	5	6
Wisconsin.....	0	0	289	574	7	11	1	1
West North Central States:								
Minnesota.....	0	0	160	306	1	7	0	0
Iowa.....	0	0	230	248	80	37	2	0
Missouri.....	1	0	389	274	48	11	7	2
North Dakota.....	0	0	30	30	10	4	0	1
South Dakota.....	0	0	64	70	2	23	1	1
Nebraska.....	1	0	149	14	17	0	0	0
Kansas.....	0	2	326	373	18	42	1	0
South Atlantic States:								
Delaware.....	0	0	4	4	0	0	1	0
Maryland ¹	0	0	40	72	0	0	1	2
District of Columbia.....	0	0	12	23	0	0	0	1
Virginia.....	2	2	17	72	0	0	9	3
West Virginia.....	0	0	65	46	0	0	2	7
North Carolina ²	0	0	37	17	2	0	3	0
South Carolina.....	1	1	3	1	1	0	4	3
Georgia ³	0	0	10	16	0	0	0	7
Florida.....	0	1	15	6	0	0	2	2
East South Central States:								
Kentucky.....	0	0	40	28	0	0	6	4
Tennessee.....	0	0	11	23	0	0	2	5
Alabama ⁴	0	0	6	4	2	1	0	2
Mississippi ⁵	0	0	4	4	1	0	2	1
West South Central States:								
Arkansas.....	0	0	7	3	7	0	1	1
Louisiana.....	1	0	17	13	0	0	6	5
Oklahoma ⁶	0	0	27	54	3	1	4	1
Texas ⁷	2	1	139	85	14	1	21	10

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 1, 1937, and May 2, 1936—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936	Week ended May 1, 1937	Week ended May 2, 1936
Mountain States:								
Montana ¹	0	0	34	87	69	8	1	0
Idaho.....	0	0	12	19	5	0	2	0
Wyoming.....	0	0	7	47	1	8	0	0
Colorado.....	0	0	62	93	2	2	0	0
New Mexico.....	0	0	25	51	0	0	2	0
Arizona.....	0	0	13	18	0	0	1	0
Utah ¹	0	0	13	37	0	2	0	0
Pacific States:								
Washington.....	0	0	35	82	12	10	2	1
Oregon ²	2	0	31	26	18	26	1	0
California ³	2	0	170	276	20	6	6	5
Total.....	17	11	6,904	7,295	388	226	129	132
First 17 weeks of year.....	373	270	117,155	132,493	5,485	3,784	1,890	1,829

¹ New York City only.

² Week ended earlier than Saturday.

³ Typhus fever, week ended May 1, 1937, 15 cases as follows: North Carolina, 2; Georgia, 4; Alabama, 1; Texas, 8.

⁴ Exclusive of Oklahoma City and Tulsa.

⁵ Rocky Mountain spotted fever, week ended May 1, 1937, 6 cases, as follows: Montana, 2; Oregon, 4.

⁶ Psittacosis, week ended May 1, 1937, California, 1 case.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Mala- ria	Meas- les	Pol- lagra	Poli- omye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>March 1937</i>										
Montana.....	1	5	161		162		0	145	118	6
Virginia.....	51	59	6,642	3	932	6	2	89	1	16
<i>April 1937</i>										
Delaware.....	3	6	1		186		0	24	0	3

<i>March 1937</i>	
Montana:	Cases
Chicken pox.....	125
Dysentery (bacillary).....	1
Encephalitis, epidemic or lethargic.....	2
German measles.....	12
Mumps.....	778
Septic sore throat.....	5
Trachoma.....	1
Undulant fever.....	2
Vincent's infection.....	1
Whooping cough.....	25

<i>March 1937—Continued</i>	
Virginia:	
Chicken pox.....	342
Dysentery (bacillary) and diarrhea.....	41
Encephalitis, epidemic or lethargic.....	4
Mumps.....	334
Ophthalmia neonatorum.....	3
Paratyphoid fever.....	1
Rocky Mountain spotted fever.....	1
Septic sore throat.....	7
Tetanus.....	1
Tularaemia.....	1

<i>March 1937—Continued</i>	
Virginia—Continued.	
Undulant fever.....	1
Whooping cough.....	433
<i>April 1937</i>	
Delaware:	
Anthrax.....	1
Chicken pox.....	37
German measles.....	24
Mumps.....	53
Paratyphoid fever.....	1
Rabies in animals.....	1
Septic sore throat.....	4
Whooping cough.....	46

WEEKLY REPORTS FROM CITIES

City reports for week ended Apr. 24, 1937

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Data for 90 cities:											
5-year average	213	248	89	7,750	781	2,556	23	432	26	1,615	-----
Current week	152	142	84	4,191	768	2,586	40	462	23	1,568	-----
Maine:											
Portland	0		1	0	1	7	0	0	0	3	29
New Hampshire:											
Concord	0		0	1	1	0	0	0	0	0	5
Manchester	0		2	0	0	4	0	1	0	0	18
Nashua	0			0		0			0	0	8
Vermont:											
Barre	0		0	0	0	0	0	0	0	0	4
Burlington	0		0	0	0	0	0	0	0	5	9
Rutland	0		0	1	0	0	0	0	0	0	8
Massachusetts:											
Boston	1		0	29	33	68	0	14	1	55	249
Fall River	0		1	28	2	0	0	2	0	4	32
Springfield	0		0	1	2	7	0	0	0	6	43
Worcester	0		0	57	4	6	0	0	0	26	42
Rhode Island:											
Pawtucket	0		0	0	0	1	0	0	0	0	20
Providence	0		0	161	7	29	0	0	0	10	77
Connecticut:											
Bridgeport	0		0	10	2	69	0	1	0	0	40
Hartford	0		0	10	1	3	0	1	0	0	38
New Haven	0		0	4	0	10	0	0	0	3	29
New York:											
Buffalo	3		1	121	13	27	0	10	0	35	164
New York	52	10	5	589	146	461	0	111	4	61	1,657
Rochester	0	7	1	4	10	4	0	1	0	8	73
Syracuse	5		0	8	3	40	0	0	0	31	51
New Jersey:											
Camden	0	1	1	6	4	6	0	0	1	3	36
Newark	0	3	0	564	10	11	0	9	0	16	115
Trenton	0		1	1	6	12	0	3	1	3	51
Pennsylvania:											
Philadelphia	1		6	51	46	264	0	29	2	82	584
Pittsburgh	6		5	108	26	40	0	8	0	25	186
Reading	0		0	402	4	16	0	0	0	4	22
Scranton	0			1		7	0		0	0	-----
Ohio:											
Cincinnati	3	3	3	219	12	26	0	8	0	9	141
Cleveland	0	12	2	177	13	102	0	9	0	51	216
Columbus	2	2	2	11	4	6	0	7	0	11	51
Toledo	0	2	2	242	7	5	0	6	0	34	94
Indiana:											
Anderson	1		0	0	2	7	0	0	0	8	9
Fort Wayne	0		1	0	2	1	0	0	0	0	29
Indianapolis	0		0	354	21	17	0	7	0	44	92
Muncie	0		1	0	3	1	0	1	0	0	15
South Bend	0		0	1	1	3	0	0	0	1	15
Terre Haute	1		0	0	0	2	1	0	0	0	20
Illinois:											
Alton	0		0	0	1	4	0	0	0	0	6
Chicago	12	12	4	59	51	327	0	43	0	73	745
Elgin	0		0	0	1	0	0	0	0	4	9
Moline	0	1	0	0	0	6	0	0	0	7	5
Springfield	0	1	0	0	1	8	0	0	0	7	30
Michigan:											
Detroit	5		5	21	32	392	0	26	1	76	307
Flint	1		0	0	6	18	0	0	0	2	29
Grand Rapids	0		0	50	4	13	0	0	0	40	43
Wisconsin:											
Kenosha	0		0	0	0	6	0	1	0	0	5
Milwaukee	0	1	1	12	9	50	0	1	0	24	89
Racine	0		0	1	1	13	0	2	0	0	11
Superior	0		0	1	0	4	0	0	0	2	5

1 Figures for Flint, Mich., estimated; report not received.

City reports for week ended April 24, 1937—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Minnesota:											
Duluth.....	0	0	0	0	3	16	2	0	0	8	18
Minneapolis.....	0	1	1	2	4	27	0	5	0	55	98
St. Paul.....	1	1	1	7	5	13	0	3	0	133	59
Iowa:											
Cedar Rapids.....	0	0	0	0	0	4	0	0	0	1	0
Davenport.....	0	0	0	0	0	1	1	0	0	0	0
Des Moines.....	1	0	0	3	0	45	0	0	0	0	83
Sioux City.....	0	0	0	0	0	8	3	0	0	0	0
Waterloo.....	0	0	0	0	0	5	0	0	2	3	0
Missouri:											
Kansas City.....	2	0	0	1	10	74	0	3	0	16	107
St. Joseph.....	2	0	0	0	1	23	17	1	0	0	24
St. Louis.....	6	0	0	13	15	138	1	5	1	86	189
North Dakota:											
Fargo.....	0	0	0	0	1	3	0	0	0	0	13
Grand Forks.....	0	0	0	0	0	0	0	0	0	2	0
Minot.....	0	0	0	0	0	0	0	0	0	0	7
South Dakota:											
Aberdeen.....	0	0	0	0	0	6	0	0	0	0	0
Sioux Falls.....	0	0	0	0	0	0	0	0	0	0	7
Nebraska:											
Omaha.....	0	0	0	1	6	11	11	1	0	9	60
Kansas:											
Lawrence.....	0	0	0	0	0	1	0	0	0	0	5
Topeka.....	0	2	2	2	2	8	0	0	0	0	21
Wichita.....	0	1	1	37	2	4	1	0	0	11	20
Delaware:											
Wilmington.....	1	0	0	11	3	3	0	1	0	0	20
Maryland:											
Baltimore.....	9	2	1	443	17	27	0	14	0	88	218
Cumberland.....	0	0	0	0	0	0	0	0	0	0	15
Frederick.....	0	0	0	10	1	0	0	0	0	0	7
Dist. of Col.:											
Washington.....	2	1	0	107	13	18	0	14	1	9	171
Virginia:											
Lynchburg.....	0	0	0	14	1	0	0	0	0	3	8
Norfolk.....	0	0	0	8	5	0	0	2	0	2	30
Richmond.....	0	1	2	2	4	1	0	3	1	5	52
Roanoke.....	0	0	0	240	2	0	0	0	0	1	14
West Virginia:											
Charleston.....	0	1	1	1	6	1	0	1	0	0	29
Huntington.....	0	0	0	0	0	4	0	0	0	0	0
Wheeling.....	0	0	0	0	4	2	0	0	0	13	20
North Carolina:											
Gastonia.....	0	0	0	0	0	0	0	0	0	2	0
Raleigh.....	0	0	0	0	0	0	0	0	0	0	9
Wilmington.....	0	0	0	1	5	0	0	0	0	0	21
Winston-Salem.....	0	1	0	0	1	4	0	0	0	3	8
South Carolina:											
Charleston.....	0	15	1	0	7	1	0	2	2	1	26
Florence.....	0	0	0	0	3	0	0	0	0	2	12
Greenville.....	0	0	0	0	2	0	0	0	0	0	7
Georgia:											
Atlanta.....	0	8	3	0	14	1	0	5	0	2	82
Brunswick.....	0	0	0	0	0	0	0	0	0	1	1
Savannah.....	2	4	1	0	0	1	0	3	1	1	82
Florida:											
Miami.....	0	3	2	1	0	2	0	2	0	0	40
Tampa.....	1	0	0	7	2	3	0	2	0	0	22
Kentucky:											
Covington.....	0	0	0	20	0	5	0	1	0	1	18
Lexington.....	0	0	0	5	3	0	0	2	0	0	21
Louisville.....	0	0	1	13	15	25	0	8	0	18	107
Tennessee:											
Knoxville.....	0	0	0	0	5	1	0	1	0	0	23
Memphis.....	0	2	11	11	11	2	0	6	0	33	69
Mashville.....	0	2	14	10	5	0	3	0	0	11	55
Alabama:											
Birmingham.....	1	14	2	4	5	1	0	5	0	5	72
Mobile.....	0	0	1	0	1	4	0	1	0	0	26
Montgomery.....	0	2	0	0	0	0	0	0	0	0	0
Arkansas:											
Fort Smith.....	1	0	0	0	0	1	0	0	0	2	0
Little Rock.....	0	0	0	1	1	0	0	0	3	0	2
Louisiana:											
Lake Charles.....	0	0	0	0	3	1	0	0	0	1	8
New Orleans.....	7	10	8	1	15	10	0	16	2	48	168
Shreveport.....	0	0	0	1	14	0	0	4	0	2	57

City reports for week ended Apr. 24, 1937—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Oklahoma:											
Muskogee.....	0			0		0	0		0	0	
Oklahoma City.....	0	12	2	0	10	7	0	0	0	4	44
Tulsa.....	0			1		6	0		0	3	
Texas:											
Dallas.....	3	6	6	80	11	2	0	1	0	19	66
Fort Worth.....	0	0	0	29	9	8	0	0	0	6	
Galveston.....	0	0	1	4	4	0	0	0	0	0	10
Houston.....	3	2	2	0	11	3	0	6	0	8	81
San Antonio.....	0		2	7	5	1	0	11	1	1	77
Montana:											
Billings.....	0		0	0	1	1	0	0	0	1	10
Great Falls.....	0		0	0	1	2	0	0	0	0	7
Helena.....	0		0	0	0	3	0	0	0	0	1
Missoula.....	0		0	0	3	0	0	0	0	0	4
Idaho:											
Boise.....	0		0	0	0	2	0	0	0	0	6
Colorado:											
Colorado Springs.....	1		0	0	1	5	0	1	0	0	19
Denver.....	3		1	4	5	20	0	3	0	46	77
Pueblo.....	0		1	0	1	3	0	0	0	0	9
New Mexico:											
Albuquerque.....	0		0	5	1	2	0	2	0	3	8
Utah:											
Salt Lake City.....	0		0	15	0	16	0	1	0	22	34
Washington:											
Seattle.....	0		3	2	6	3	1	3	0	64	103
Spokane.....	0		0	3	6	12	1	0	0	16	35
Tacoma.....	0		0	0	1	1	0	1	0	0	31
Oregon:											
Portland.....	0		0	2	1	16	5	2	0	6	83
Salem.....	0	2		1		0	0		0	0	
California:											
Los Angeles.....	15	8	0	17	30	33	5	33	0	105	377
Sacramento.....	1		0	26	3	2	0	2	0	2	32
San Francisco.....	1	7	1	7	10	11	0	9	1	24	181

State and city	Meningococcus meningitis		Poliomyelitis cases	State and city	Meningococcus meningitis		Poliomyelitis cases
	Cases	Deaths			Cases	Deaths	
Massachusetts:				Virginia:			
Boston.....	4	3	0	Richmond.....	0	1	0
Springfield.....	0	1	0	North Carolina:			
Rhode Island:				Wilmington.....	4	1	0
Providence.....	1	0	0	South Carolina:			
New York:				Greenville.....	0	1	0
New York.....	6	1	0	Florida:			
New Jersey:				Miami.....	1	0	1
Newark.....	1	1	0	Kentucky:			
Pennsylvania:				Louisville.....	3	0	0
Pittsburgh.....	2	0	0	Tennessee:			
Ohio:				Nashville.....	0	1	0
Cleveland.....	1	1	0	Alabama:			
Indiana:				Birmingham.....	9	0	0
South Bend.....	0	1	0	Louisiana:			
Illinois:				New Orleans.....	2	0	0
Chicago.....	1	3	0	Shreveport.....	0	1	0
Wisconsin:				Texas:			
Milwaukee.....	1	1	1	Dallas.....	0	1	0
Minnesota:				Fort Worth.....	0	1	0
St. Paul.....	1	0	0	Houston.....	1	0	0
Missouri:				Montana:			
St. Joseph.....	1	0	0	Missoula.....	1	0	0
Nebraska:				Colorado:			
Omaha.....	1	0	0	Pueblo.....	1	0	0
Maryland:				Washington:			
Baltimore.....	2	1	0	Seattle.....	0	1	0
District of Columbia:				California:			
Washington.....	3	1	0	Los Angeles.....	2	2	1

Encephalitis, epidemic or lethargic.—Cases: New York, 4; Chicago, 1; Baltimore, 1; Birmingham, 1; Houston, 1.

Pellagra.—Cases: Charleston, S. C., 1; Savannah, 1; Miami, 1; Birmingham, 1.

Typhus fever.—Cases: New York, 1; Savannah, 1.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended April 10, 1937.—
 During the 2 weeks ended April 10, 1937, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis				1	3			1		5
Chicken pox		1	7	289	708	44	32	18	90	1,189
Diphtheria		4	1	34	25	4	1		1	70
Dysentery				9	3					12
Erysipelas				18	9	2	4	6	10	49
Influenza		133	2	929	80	174	17		306	1,641
Lethargic encephalitis				1	1					2
Measles		109	128	1,090	551	243	283	112	782	3,298
Mumps		3	205		722	15	42	45	72	1,104
Paratyphoid fever								1		1
Pneumonia		6			34		6		24	70
Polio-myelitis				2			1			3
Scarlet fever		21	16	139	273	82	85	82	34	732
Smallpox								1		1
Trachoma							6			6
Tuberculosis	6	11	15	131	107	16	35	7	28	356
Typhoid fever			3	19	8	1	1	1		33
Undulant fever			1	3	6		1		1	12
Whooping cough		4	1	277	152	50	36	13	34	567

NOTE.—Figures for Ontario include the 2 weeks ended April 17, 1937.

EGYPT

*Infectious diseases—Second quarter 1936.—*During the second quarter of 1936, certain infectious diseases were reported in Egypt, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	2	1	Mumps	375	7
Cerebrospinal meningitis	58	50	Plague	22	18
Chicken pox	479	9	Puerperal septicemia	134	134
Dengue	2	1	Rabies	10	9
Diphtheria	304	125	Scarlet fever	24	2
Dysentery	676	147	Smallpox	1	-----
Erysipelas	1,408	290	Tetanus	97	70
Influenza	2,397	196	Tuberculosis (pulmonary)	1,362	636
Leprosy	61	21	Typhoid fever	1,128	285
Lethargic encephalitis	1	1	Typhus fever	1,420	217
Malaria	2,199	16	Undulant fever	8	-----
Measles	3,680	1,386	Whooping cough	812	61

*Vital statistics—Second quarter 1936.—*Following are vital statistics for the second quarter of 1936 in all places in Egypt having a health bureau:

Population.....	4,710,500	Deaths per 1,000 population.....	33.6
Live births.....	51,181	Deaths from diarrhea and enteritis under 2 years.....	11,845
Births per 1,000 population.....	43.5	Infant mortality per 1,000 births.....	246
Stillbirths.....	1,027		
Total deaths.....	89,625		

FINLAND

Communicable diseases—March 1937.—During the month of March 1937, cases of certain communicable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Diphtheria.....	286	Pollomyelitis.....	3
Influenza.....	5,685	Scarlet fever.....	1,241
Lethargic encephalitis.....	2	Typhoid fever.....	14
Paratyphoid fever.....	6		

IRISH FREE STATE

Vital statistics—Fourth quarter 1936.—The following statistics for the Irish Free State for the quarter ended December 31, 1936, are taken from the Quarterly Return of Marriages, Births, and Deaths, issued by the Registrar General, and are provisional:

	Number	Rate per 1,000 population		Number	Rate per 1,000 population
Marriages.....	3,357	4.5	Deaths from—Continued.		
Births.....	13,700	18.5	Influenza.....	135	0.18
Total deaths.....	10,253	13.8	Measles.....	47	
Deaths under 1 year of age.....	1,146	1.84	Puerperal septicæmia.....	16	1.17
Deaths from:			Scarlet fever.....	53	
Cancer.....	898	1.21	Tuberculosis (all forms).....	705	.95
Diarrhea and enteritis (under 2 years of age).....	204		Typhoid fever.....	21	
Diphtheria.....	100		Whooping cough.....	59	

¹ Per 1,000 births.

Vital statistics—Year 1936.—The following vital statistics for the Irish Free State for the year 1936 are taken from the Quarterly Return of Marriages, Births, and Deaths issued by the Registrar General, and are provisional:

	Number	Rate per 1,000 population		Number	Rate per 1,000 population
Marriages.....	14,822	5.0	Deaths from—Continued.		
Births.....	58,020	19.6	Influenza.....	657	0.22
Total deaths.....	42,590	14.4	Measles.....	218	
Deaths under 1 year of age.....	4,271	1.74	Puerperal septicæmia.....	90	1.55
Deaths from:			Scarlet fever.....	171	
Cancer.....	3,422	1.15	Tuberculosis (all forms).....	3,360	1.13
Diarrhea and enteritis (under 2 years of age).....	615		Typhoid fever.....	65	
Diphtheria.....	348		Typhus fever.....	1	
			Whooping cough.....	219	

¹ Per 1,000 births.

YUGOSLAVIA

Communicable diseases—4 weeks ended March 28, 1937.—During the 4 weeks ended March 28, 1937, certain communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	15		Poliomyelitis.....		1
Cerebrospinal meningitis.....	58	20	Scarlet fever.....	249	4
Diphtheria and croup.....	602	67	Septis.....	16	9
Dysentery.....	18	1	Tetanus.....	20	10
Erysipelas.....	265	9	Typhoid fever.....	162	21
Measles.....	775	13	Typhus fever.....	142	21
Paratyphoid fever.....	10				

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS for April 30, 1937, pages 571-585. A similar cumulative table will appear in the PUBLIC HEALTH REPORTS to be issued May 28, 1937, and thereafter, at least for the time being, in the issue published on the last Friday of each month.

Cholera

India—Bombay.—During the week ended April 17, 1937, 1 imported case of cholera was reported in Bombay, India.

Plague

Bolivia—Potosi Department.—During the month of March 1937, 3 cases of pneumonic plague were reported in Potosi Department, Bolivia.

China—Amoy.—During the week ended April 10, 1937, 1 imported case of pneumonic plague was reported in Amoy, China.

Hawaii Territory—Hawaii Island—Hamakua District—Paauhau Sector.—Two rats found on April 28, 1937, in Paauhau Sector, Hamakua District, Island of Hawaii, Hawaii Territory, have been proved plague-infected.

Smallpox

India—Cochin.—During the week ended April 10, 1937, 47 cases of smallpox were reported in Cochin, India.

Mexico.—During the month of February 1937, smallpox was reported in Mexico as follows: Aguascalientes, Aguascalientes State, 1 case, 1 death; Colima, Colima State, 2 cases; Guadalajara, Jalisco State, 1 case; Mexico, D. F., 9 cases and 2 deaths; Monterrey, Nuevo Leon State, 6 cases; San Luis Potosi, San Luis Potosi State, 1 case.

Typhus Fever

Mexico.—During the month of February 1937, typhus fever was reported in Mexico as follows: Aguascalientes, Aguascalientes State,

3 cases; Mexico, D. F., 18 cases, 6 deaths; Oaxaca, Oaxaca State, 2 cases; Puebla, Puebla State, 3 cases; Queretaro, Queretaro State, 2 cases.

Syria.—During the week ended April 10, 1937, 1 case of typhus fever was reported in Syria.

Yellow Fever

Brazil.—Yellow fever has been reported in Brazil as follows: Xapury, Acre Territory, January 18, 1 death. Minas Geraes State—Alfenas, March 15, 1 death, March 19, 1 death; Arary, March 25, 1 death; Areado, March 21, 1 death; Cambuquira, March 20, 1 death (first appearance); Campos Geraes, March 20, 1 death; Carmo de Cachoeira, March 15, 1 death (first appearance); Conceicao da Aparecida, March 18, 1 death; Espirito Sto. de Prata, March 17, 1 death (first appearance); Fama, March 17, 1 death (first appearance); Itumirin, March 23, 1 death (first appearance); Jacuhy, March 20, 1 death; Nepomuceno, March 23, 1 death; Prados, March 26, 1 death (first appearance); St. Sebastiao do Paraizo, March 25, 1 death.

Senegal—Sine Saloum Subdivision—Diakhao.—On April 28, 1937, 1 fatal case of yellow fever was reported in Diakhao, Sine Saloum Subdivision, Senegal.

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